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I also certify that the application is now proceeding in the name as identified herein.

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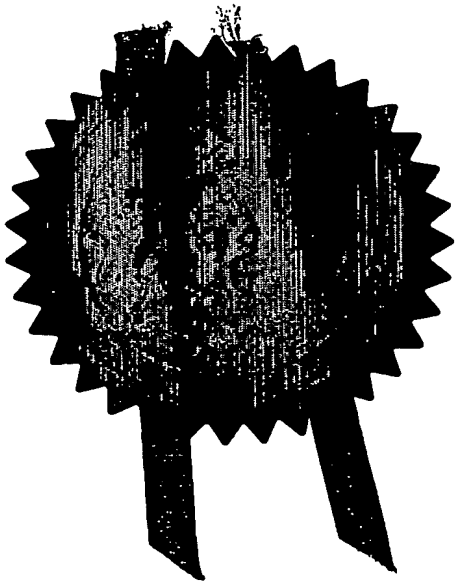

Signed

Dated 18 February 2004

PRIORITY DOCUMENT

SUBMITTED OR TRANSMITTED IN COMPLIANCE WITH RULE 17.1(a) OR (b)

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GB 0225372.2

By virtue of a direction given under Section 30 of the Patents Act 1977, the application is proceeding in the name of:

PAUL DAVID FOREMAN,
57 Herbert Road,
RAINHAM,
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ME8 9DA,
United Kingdom

[ADP No. 08809261001]

Patents Form 1/77

The Patent Office

1/77

01NOV02 E760097-7 D02136
P01/7700 0.00-0225372.2

Patents Act 1977
(Rule 16)

31 OCT 2002

Request for grant of a patent

(See the notes on the back of this form. You can also get an explanatory leaflet from the Patent Office to help you fill in this form)

The Patent Office

Cardiff Road
Newport
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1.	Your reference	SP/ED/N12918
2.	Patent application number *(The Patent Office will fill this part)*	0225372.2
3.	Full name, address and postcode of the or of each applicant *(underline all surnames)*	City Glass London Limited 37 Thames Avenue Rainham, Kent ME8 9BN United Kingdom
	Patents ADP number *(if you know it)*	8496390001
	If the applicant is a corporate body, give the country/state of its incorporation	
4.	Title of the invention	Glazing Joint
5.	Name of your agent *(if you have one)*	Williams Powell
	"Address for service" in the United Kingdom to which all correspondence should be sent *(including the postcode)*	4 St. Paul's Churchyard London EC4M 8AY
	Patents ADP number *(if you know it)*	830310001

SECTION 15(4) APPLICATION FILED 13/12/04

6.	If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and *(if you know it)* the or each application number	Country	Priority application number *(if you know it)*	Date of filing *(day / month / year)*

7.	If this application is divided or otherwise derived from an earleir UK application, give the number and the filing date of the earlier application.	Number of earlier application	Date of filing *(day / month / year)*

8.	Is a statement of inventorship and of right to grant of a patent required in support of this request? *(answer 'Yes if:* *a) any applicant named in part 3 is not an inventor, or* *b) there is an inventor who is not named as an applicant, or* *c) any named applicant is a corporate body*	Yes

Enter the number of sheets for any of the following items you are filing with this form. Do not count copies of the same document

Continuation sheets of this form

Description 7

Claim(s)

Abstract

Drawing(s) 3

10. If you are filing one of the following, state how many against each item.

Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent *(Patents Form 7/77)*

Request for preliminary examination and search *(Patents Form 9/77)*

Request for substantive examination *(Patents Form 10/77)*

Any other documents *(please specify)*

11. I/we request the grant of a patent on the basis of this application.

Signature

Date 31 October 2002

12. Name and daytime telephone number of person to contact in the United Kingdom Mr Lee Anderson 020 7329 4400

0207 936 3300

Warning

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Notes

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GLAZING JOINT

The present invention relates to glazing joints, especially for glazed partition walls.

Glazed partition walls are formed by joining series of frameless glass sheets. Adjacent edges of the glass sheets are typically joined by coating the edge of a first glass sheet with a sealant, such as silicone or mastic, then positioning the edge of a second glass sheet against the coated edge of the first sheet. A problem with this method is that excess sealant is pushed out of the joint and on to adjacent surfaces of the glass sheets and has to be removed, for example by wiping whilst the sealant is still fluid. This results in an inconsistency in the quality of the finish of the joints. Furthermore, gaining access to both sides of the glazed partition wall in order to remove excess sealant can prove difficult.

GB patent 2,322,663 describes a glazing joint in which an adhesive strip such as double sided adhesive tape, is attached to one side of the joint to stop the silicone from spilling out on that side. Excess silicone pushed out from the other side of the joint still needs to be wiped away.

UK patent 2 339 589 describes a reusable joint for joining panes of glass. The joint is a polycarbonate strip. Different designs of strips permit joints between 2, 3 or 4 panes of glass. The strip has resilient fins which retain the glass sheets. As no adhesive is used, the panes of glass can be accidentally pulled out of the joint.

The present invention seeks to provide an improved glazing joint and to overcome at least one of the above disadvantages.

According to a first aspect of the present invention there is provided a glazing strip wherein the surface of the strip is capable of remaining adhesive.

The glazing strip is preferably shaped for receiving two or more sheets. The sheets are preferably light transmitting sheets.

The strip may be shaped to form a 45,90 or 180 degree joint between adjacent sheets. Preferably, the strip has recesses for receiving sheets;the angle of a recess being about 65-90 degrees. Preferably the angle of the recess is about 70-85 degrees. Most preferably, the angle is 80°.

Preferably the glazing strip is transparent or translucent.

According to a second aspect of the invention there is provided a compound including a silicone which is capable of remaining adhesive.

Advantageously the compound includes polydimethylsiloxane (PDMS), silicone and an organic peroxide.

The compound may include from about 1% to about 10%, preferably 5% organic peroxide. The percentages given are percentages by weight. The organic peroxide is preferably 2,4 Dichlorobenzylperoxide.

The silicone is preferably a low molecular weight silicone. The silicone used preferably has a density of 1.16 +/- 0.01g per cc. The compound may include from about 50 to about 95% silicone, preferably from about 5 to about 20%, and most preferably 13% silicone.

Advantageously, the compound includes from about 50 to about 95% silicone, preferably from about 80 to about 90% PDMS, and most preferably 86% PDMS.

According to a third aspect of the present invention, there is provided a method of joining sheets including inserting an adhesive material between adjacent edges of at least a first and second sheet. Preferably, the sheet is a light transmitting sheet. Advantageously, the sheet is clear.

At least part of the surface of the material which is not in contact with the sheets may be coated with another material.

Preferably, the coating is by spraying.

Preferred embodiments of the present invention are described below, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a top plan view of a glazing strip for forming a 180 degree joint;

Figure 2 is a top plan view of a joint formed by the glazing strip in Figure 1;

Figure 3 is a front view of the joint in Figure 2;

Figure 4 is a top plan view of a glazing strip for forming a 45 degree joint;

Figure 5 is a top plan view of a glazing strip for forming a 90 degree joint; and

Figure 6 is a top plan view a glazing strip for forming a joint between three glass sheets.

Preferred dimensions are given in mm. These can change by up to a factor of 3 or more.

Referring to Figures 1 to 3, a first embodiment of the glazing strip 10 has recesses 12,14 each for receiving a sheet of glass 16,18. The angle of the recess ("a") is 80 degrees. The strip 10 forms a joint between the glass sheets 16,18 such that the sheets are firmly attached to each other. Typically, the strip 10 maintains a distance of 3

mm between the glass sheets 12,14 (distance "d"). The glazing strip 10 forms a 180 degree joint between the two adjacent sheets of glass 16,18.

The glazing strip 10 is formed by extrusion of a material which is capable of remaining of adhesive. The material is a mixture of polydimethylsiloxane (PDMS; compounded with inert fillers such as fumed silica), low molecular weight silicone and an organic peroxide such as 2,4 dichlorobenzyl peroxide by combining the above components in a ratio of 86 (PDMS): 13 (silicone): 1 (organic peroxide). The PDMS is low viscosity (less than 100,000 centistokes). The components should be mixed thoroughly in a clean environment using either an open mill or an internal mixer, until a homogenous mass is achieved.

The duration of the mixing is dependant upon the size of the batch and as such varies. The resultant compound is tested for homogeneity by rheometry and specific gravity testing against a standard.

After mixing, the material is cured using a hot air vulcanising unit which is temperature controlled to within +/- 5 Centigrade degrees. The unit is set to a temperature of between about 300 and about 900 degrees Centigrade depending upon the type of production unit being used to feed extrudate to it. The duration of the curing step depends on the rate of extrusion.

The material is then further cured at about 200 degrees Centigrade for up to 16 hours.

This polymeric compound is designed to exhibit a certain degree of surface tackiness. Preferred physical properties of the material are as follows:

TEST	UNITS	TYPICAL VALUES
DENSITY	g/cm^3	1.16
HARDNESS	Shore °A	60
TENSILE STRENGTH	Mpa	9.21
ELONGATION @ BREAK	%	543
TEAR STRENGTH	N/mm	38
COMPRESSION SET 24 HRS @ 100°C (Recovery=20mins. in air @ 20°C)	%	23

The material should have a good blend of physical properties. It may be transparent, translucent or opaque.

An advantage of the glazing strip 10 is that it remains adhesive. This allows glass sheets to be repositioned and removed when dismantling the partition wall. In addition, the adhesive nature of the strip firmly secures the glass sheets in position thus reducing the likelihood that they can accidentally be pulled out of the joint. No additional adhesive is required and so there is no excess sealant to be wiped up. The strip allows the easy assembly of glass partition walls therefore.

In use, the appropriate sized glazing strip is chosen for the type of glass used and the angle of joint required. A first glass sheet 16 is inserted into the recess 12. The strip 10 is adhesive and so the glass sheet 16 is firmly held in place. A second glass sheet 18 is then positioned in recess 14. The edges 20,22 of the strip 10 are flush with the glass sheets 16,18.

In modifications, the glazing strip may comprise polyurethane or a thermoplastics material, although these materials suffer from ageing and discolouration and have a worse performance in fire.

The glazing strip may be coloured for use with coloured glass.

It will be apparent that the glazing strip could be used also for joining plastic, perspex, or opaque sheets.

The glazing strip could be used in vertical or horizontal joints or joints of other angles.

The second curing step may be omitted or alternatively, the material could be cured for longer than 16 hours.

The edges 20, 22 of the strip 10 may have a coating 24, the surface of which is not adhesive. The coating may be sprayed or brushed on. The coating may be sprayed silica.

Only one of the edges 20, 22 of the strip may be coated.

At least one of the edges 20, 22 of the strip may be dried such that at least the outer surface of the strip is no longer sticky.

The strip may be UV resistant.

The glazing strips can be made in a variety of sizes and thicknesses for joining glass sheets of different thickness (typically 6-16mm), for example standard toughened or laminated glass.

Referring to Figure 4, a second embodiment of the glazing strip 30 has recesses 32, 34 each for receiving a sheet of glass. The angle of the recess is 80 degrees. The adhesive strip 30 forms a 45 degree junction between the glass sheets.

Referring to Figure 5 a third embodiment of the glazing strip 50 has recesses 52, 54 each for receiving a sheet of glass. The angle of the recess is 80 degrees. The adhesive strip so forms a 90 degree junction between the glass sheets.

The strip may be designed to permit junctions of different angles at any value between those shown in the Figures.

Referring to Figure 6, a fourth embodiment of the glazing strip 60 has recesses 62, 64, 66 each for receiving a sheet of glass thus forming a three-way junction.

The glazing strip can have more than three recesses, for example four recesses for forming a 4-way junction.

FIGURE 1

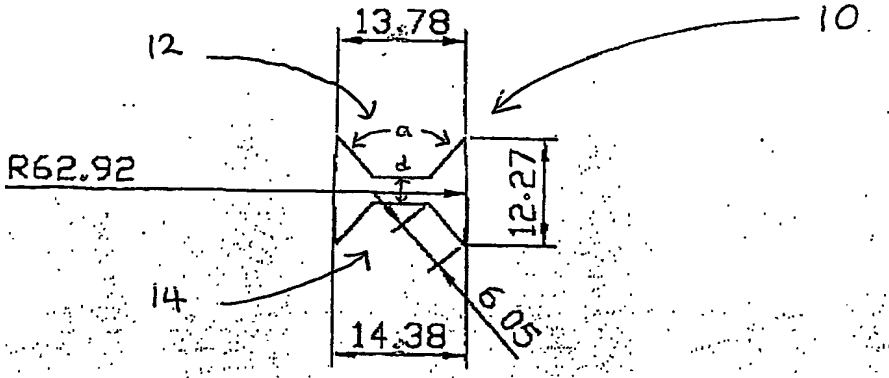

FIGURE 2

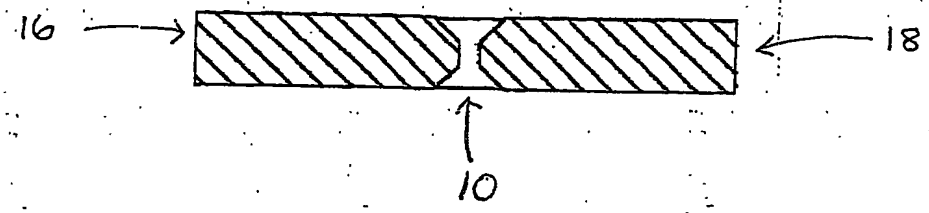

FIGURE 3

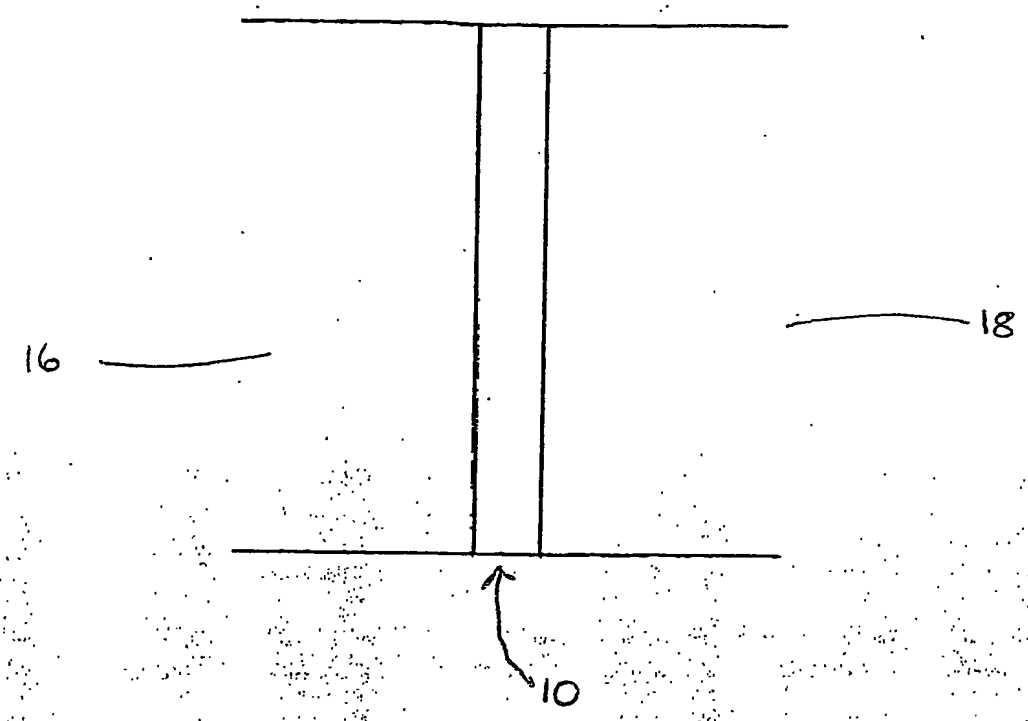

FIGURE 4

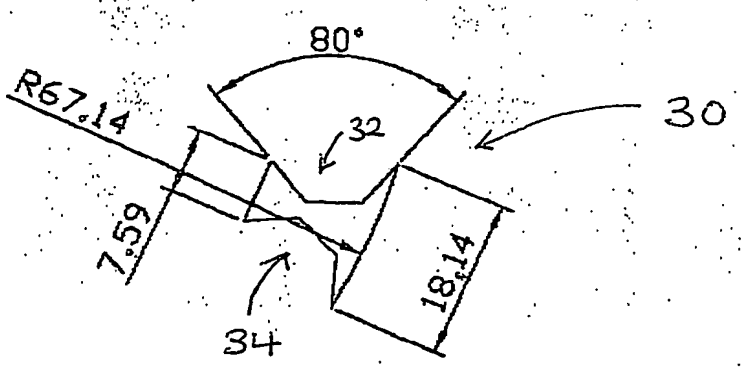

FIGURE 5

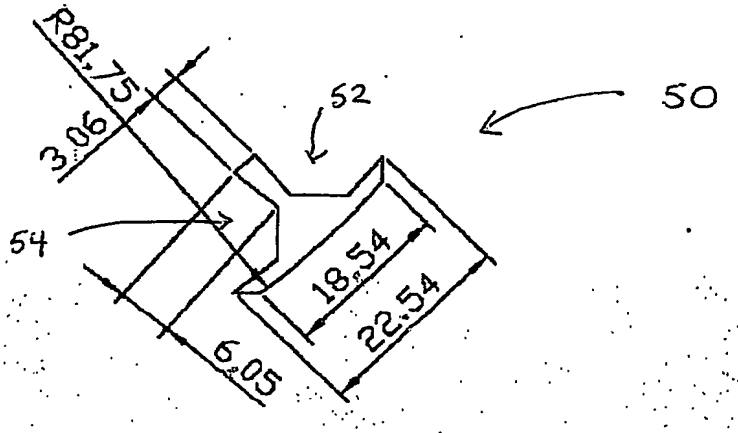

FIGURE 6